

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents P.O. Box 1450, Alexandria, VA 22313-1450 on:

10 December 2004
Date of Deposit

Paul E. Rauch, Ph.D.

Name

Signature

Our File No. IPJ01-001-US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
Stephen A. Boppart, et al.)
Serial No. 10/753,972) Examiner: To Be Assigned
Filing Date: January 8, 2004) Group Art Unit No. 2878
For Multi-Functional Plasmon-Resonant)
Contrast Agents For Optical)
Coherence Tomography)

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

M.S. - Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

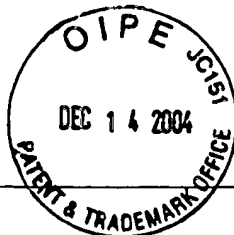
Dear Sir:

In accordance with the provisions of 37 C.F.R. § 1.56, Applicants request that citation and examination of the references identified on the attached PTO-1449 form, copies of which are enclosed herewith in accordance with 37 C.F.R. §1.98, be made during the course of examination of the above-referenced application for United States Letters Patent.

Respectfully submitted,

Paul E. Rauch, Ph.D.
Registration No. 38,591

Evan Law Group LLC
566 West Adams
Suite 350
Chicago, Illinois 60661
(312) 876-1400



Form PTO-1449 (Rev. 8-88)	Attorney Docket No. IPJ01-001-US	Serial No. 10/753,972
INFORMATION DISCLOSURE CITATION (Use several sheets if necessary)	Applicant: Stephen A Boppart, et al.	
	Filing Date: January 8, 2004	Group: 2878

U.S. PATENT DOCUMENTS

Examiner Initial*	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
-------------------	-----------------	------	------	-------	----------	----------------------------

Examiner Initial*	OTHER ITEMS - NON PATENT LITERATURE DOCUMENTS					
	Include, as applicable: Author, Title, Date, Publisher, Edition or Volume, Pertinent Pages					
	B1	Balasubramanian R, et al. Dispersion and stability studies of resorcinarene-encapsulated gold nanoparticles. Langmuir 18:3676-81, 2002.				
	B2	Balasubramanian R, Xu J, Kim B, Sadtler B, Wei A. Extraction and dispersion of large gold nanoparticles in organic solvents. J. Dispers. Sci. Tech. 22:485-89, 2001.				
	B3	Blackwell HE, O'Leary DJ, Chatterjee AK, Washenfelder RA, Bussmann DA, Grubbs RH. New approaches to olefin cross-metathesis. J. Am. Chem. Soc. 122:58-71, 2000.				
	B4	Boppart, S.A., "Endoscopic Optical Coherence Tomography Imaging of Barrett's Esophagus" M.D. Thesis, Harvard University, 2000.				
	B5	Boppart SA, Herrmann J, Pitris C, Stamper DL, Brezinksi ME, Fujimoto JG. High-Resolution Optical Coherence Tomography-Guided Laser Ablation of Surgical Tissue. J. Surg. Res., 82:275-84, 1999.				
	B6	Boyer, d., et al., Photothermal Imaging of Nanometer-Sized Metal Particles Among Scatterers", Science, 297:1160-63, 2002.				
	B7	Cain, C., et al., "Visible Retinal Lesions from Ultrashort Laser Pulses in the Primate Eye", Invest. Ophthalmol. Vis. Sci., 36:879-888, 1995.				
	B8	Cain CP, Toth CA, Noojin GD, Carothers V, Stolarski DJ, Rockwell BA. Thresholds for Visible Lesions in the Primate Eye Produced by Ultrashort Near-Infrared Laser Pulses. Invest. Ophthalmol. Vis. Sci., 40:2343-49, 1999.				
	B9	Cepak VM, Martin CR. Preparation and Stability of Template-Synthesized Metallic nanorod Sols in Organic Solvents. J. Phys. Chem. B 102:9985-90, 1998.				
	B10	Clark HA, Campagnola PJ, Wuskell JP, Lewis A, Loew LM. Second harmonic generation properties of fluorescent polymer-encapsulated gold nanoparticles. J. Am. Chem. Soc. 122:10234-35, 2000				
	B11	deBoer, J., et al., "Two-Dimensional Birefringence Imaging in Biological Tissue by Polarization Sensitive Optical Coherence Tomography", Opt. Lett., 22:934-36, 1997.				
	B12	Dowlatshahi, K., et al., "Histological Evaluation of Rat Mammary Tumor Necrosis By Interstitial Nd:YAG Laser Hyperthermia" Lasers. Surg. Med., 12:159-164, 1992.				
	B13	El-Sayed, M. A. Some interesting properties of metals confined in time and nanometer space of different shapes. Acc. Chem. Res. 34:257-64, 2001.				
	B14	Freeman RG, Grabar KC, Allison KJ, Bright RM, Davis JA, Guthrie AP, Hommer MB, Jackson MA, Smith PC, Walter DG, Natan MJ. Self-Assembled Metal Colloid Monolayers: An Approach to SERS Substrates Science 267:1629-1632, 1995.				
	B15	Gimenez-Conti IB, Slaga TJ. The hamster cheek pouch carcinogenesis model. J. Cell. Biochem. 17F:83-90, 1993.				

Examiner	Date Considered
----------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

	B16	Grubbs RH, Miller SJ, Fu GC. Ring-Closing Metathesis and Related Processes in Organic Synthesis. <i>Ace. Chem. Res.</i> 28:446-52, 1995.
	B17	Haes AJ, van Duyne RP. A nanoscale optical biosensor: sensitivity and selectivity of an approach based on the localized surface plasmon resonance spectroscopy of triangular silver nanoparticles. <i>J. Am. Chem. Soc.</i> 124:10596-604, 2002.
	B18	Handley DA, Arbeeny CM, White LD, Chien S. Colloidal gold-low density lipoprotein conjugates as membrane receptor probes. <i>Proc. Natl. Acad. Sci. USA</i> 78:368-71, 1981.
	B19	Handley DA, Chien S. Colloidal gold labeling studies related to vascular and endothelial function, hemostasis and receptor-mediated processing of plasma macromolecules. <i>Fur. J. Cell. Biol.</i> 43:163-74, 1987.
	B20	Hardikar VV, Matijevic E. Coating of nanosize silver particles with silica. <i>J. Colloid. Interf. Sci.</i> 221:133-36, 2000.
	B21	Harrington KJ, Spitzweg C, Bateman AR, Morris JC, Vile RG. Gene therapy for prostate cancer: current status and future prospects. <i>J. Urology</i> 166:1220-33, 2001.
	B22	Hartl, I., et al., "Ultrahigh-Resolution Optical Coherence Tomography Using Continuum Generation In An Air Silica Microstructure Optical Fiber", <i>Opt. Lett.</i> 26:608-610, 2001.
	B23	Hiergeist, K., et al. Application of magnetite ferrofluids for hyperthermia. <i>J. Magn. Magn. Mater.</i> 201:420-22, 1999.
	B24	Jackson JB, Halas NJ. Silver Nanoshells: Variations in Morphologies and optical properties. <i>J. Phys. Chem. B</i> 105:2743-46, 2001.
	B25	Jana NR, Gearheart L, Murphy CJ. Wet chemical synthesis of high aspect ratio cylindrical gold nanorods. <i>Ibid.</i> 105:4065-67, 2001.
	B26	Jang, I., "Visualization of Coronary Atherosclerotic Plaques in Patients Using Optical Coherence Tomography: Comparison With Intravascular Ultrasound", <i>J. Am. Coll. Cardiol.</i> , 39:604-609, 2002.
	B27	Jensen T, Kelly L, Lazarides A, Schatz GC. Electrodynamics of noble metallic nanoparticles and nanoparticle clusters. <i>J. Cluster Sci.</i> 10:295-317, 1999.
	B28	Jin R, Cao Y, Mirkin CA, Kelly KL, Schatz GC, Zheng JG. Photoinduced conversion of silver nanospheres to nanoprisms. <i>Science</i> 294:1901-03, 2001.
	B29	Jordan A, Scholz R, Wust P, Fahling H, Felix R. Magnetic fluid hyperthermia (MFH): Cancer treatment with AC magnetic field induced excitation of biocompatible superparamagnetic nanoparticles. <i>J. Magn. Magn. Mater.</i> 201:413-19, 1999.
	B30	Kempka G, Kolb-Bachofen V. Binding, uptake, and transcytosis of ligands for mannose-specific receptors in rat liver: an electron microscopic study. <i>Exp Cell Res</i> 176, 38-48, 1988.
	B31	Keye, W., et al., "Argon Laser Therapy of Endometriosis: A Review of 92 Consecutive Patients" <i>Fertil. Steril.</i> , 47:208-212, 1987.
	B32	Kim B, Tripp SL, Wei A. Self-Organization of Large Gold Nanoparticle Arrays. <i>J. Am. Chem. Soc.</i> 123:7955-56, 2001.
	B33	Kim F, Song JH, Yang P. Photochemical synthesis of gold nanorods. <i>J. Am. Chem. Soc.</i> 124:14316-17, 2002.
	B34	Kneipp, K., et al., "Ultrasensitive Chemical Analysis by Raman Spectroscopy", <i>Chem. Rev.</i> , 99:2957-75, 1999.
	B35	Kolb-Bachofen V, Schlepper-Schafer J, Vogell W, Kolb H. Electron microscopic evidence for an asialoglycoprotein receptor on Kupffer cells: localization of lectin-mediated endocytosis. <i>Cell</i> 29:859-66, 1982.
	B36	Lee TM, Oldenburg AL, Sitafalwalla S, Marks, DL, Luo W, Toubian FJJ, Suslick KS, Boppart SA. Engineered microsphere contrast agents for optical coherence tomography. <i>Opt. Lett.</i> , Vol. 28, No. 17, pp.1546-1548, 2003.
	B37	Leitgeb, It, Wojtkowski, M., Kowalczyk, A., Hitzengerger, C. K., Sticker, M., and Fercher, A. F. Spectral measurement of absorption by spectroscopic frequency-domain optical coherence tomography. <i>Opt. Lett.</i> 25:820-22, 2000.
	B38	Li AP, Muller F, Birner A, Nielsch K, Gösele U. Polycrystalline nanopore arrays with hexagonal ordering on aluminum. <i>J. Vac. Sci. Technol. A</i> , 17:1428-31, 1999.
	B39	Li F., Zhang L, Metzger RM. On the growth of highly ordered pores in anodized aluminum oxide. <i>Chem. Mater.</i> 10:2470-80, 1998.
	B40	Li, X., et al., Optical Coherence Tomography: Advanced Technology for the Endoscopic Imaging of Barrett's Esophagus", <i>Endoscopy</i> , 32:921-930, 2000.
	B41	Li, X., et al., "Imaging Needle for Optical Coherence Tomography", <i>Opt. Lett.</i> , 25:1520-1522, 2000.
	B42	Licha, K. Contrast agents for optical imaging. <i>Topics Curr. Chem.</i> 222:1-29, 2002.

	B43	Lin, C., et al., "Intraocular Microsurgery with a Picosecond Nd:YAG Laser", <i>Lasers Surg. Med.</i> 15:44-53, 1994.
	B44	Lin SP, Wang L, Jacques SL, Tittel FK. Measurement of tissue optical properties by the use of oblique-incidence optical fiber reflectometry. <i>Appl. Opt.</i> 36:136-43, 1997.
	B45	Liu Q, Xu Z, Finch JA, Egerton R. A novel two-step silica-coating process for engineering magnetic nanoparticles. <i>Chem. Mater.</i> 10:3936-40, 1998.
	B46	Liz-Marzan LM, Giersig M, Mulvaney P. Homogeneous silica coating of vitreophobic colloids. <i>Chem. Commun.</i> 731-32, 1996.
	B47	Marks, D., et al., "Study of an Ultrahigh-Numerical Aperture Fiber Continuum Generation Source For Optical Coherence Tomography", <i>Opt. Lett.</i> , 27:2010-2012, 2002.
	B48	Masuda H., Fukada K. Ordered metallic nanohole arrays made by a two-step replication of honeycomb structures of anodic alumina. <i>Science</i> 268:1466-68, 1995.
	B49	Micali, N., et al., "Separation of Scattering and Absorption Contributions in UV/Visible Spectra of Resonant Systems", <i>Anal. Chem.</i> , 73:4958-63, 2001.
	B50	Minton, J., et al., "The Laser in Surgery. A 23 Year Perspective.", <i>Am. J. Surg.</i> , 151:725-729, 1986.
	B51	Mock JJ, Barbic M, Smith DR, Schultz DA, Schultz SJ. Shape effects in plasmon resonance of individual colloidal silver nanoparticles. <i>J. Chem. Phys.</i> 116:6755-59, 2002.
	B52	Mock JJ, Oldenburg SJ, Smith DR, Schultz DA, Schultz S. Composite plasmon resonant nanowires. <i>Nano. Lett.</i> 2:465-69, 2002.
	B53	Morgner U, Drexler W, Kartner FX, Li XD, Pitris C, Ippen EP, Fujimoto JG. Spectroscopic optical coherence tomography. <i>Opt. Lett.</i> , 25:111-13, 2000.
	B54	Nicewarner-Pena SR., et al. Submicrometer metallic barcodes. <i>Science</i> 294:137-41, 2001.
	B55	Nielsch K, Choi J, Schwirn K, Wehrspohn RB, Gösele U. Self-ordering regimes of porous alumina: the 10% porosity rule. <i>Nano Lett.</i> 2:677-80, 2002.
	B56	Novak J, Nickerson C, Franzen S, Feldheim, DL. Purification of molecularly bridged metallic nanoparticle arrays by centrifugation and size exclusion chromatography. <i>Anal. Chem.</i> 73:5758-61, 2001.
	B57	Oldenburg, S., et al., "Light Scattering From Dipole and Quadrupole Nanoshell Antennas", <i>Appl. Phys. Lett.</i> , 75:1063-65, 1999.
	B58	Pasternack, R., et al., "Resonance Light Scattering" A New Technique For Studying Chromophore Aggregation", <i>Science</i> , 269:935-39, 1995.
	B59	Pathak I, Davis NL, Hsiang YN, Quenville NF, Palcic B. Detection of squamous neoplasia by fluorescence imaging comparing porfimer sodium fluorescence to tissue autofluorescence in the hamster cheek pouch model. <i>Am. J. Surg.</i> 170:423-426, 1995.
	B60	Profio AE, Doiron DR. Transport of light in tissue in photodynamic therapy of cancer. <i>Photochem. Photobiol.</i> 46:591-99, 1987.
	B61	Prudhomme, M., et al., "Interstitial Diode Laser Hyperthermia in the Treatment of Subcutaneous Tumor", <i>Laser Surg. Med.</i> 19:445-450, 1996.
	B62	Pusztay SV, Wei A, Stavens KB, Andres RP. Encapsulation of Gold Nanoclusters in Crosslinked Resorcinarene Shells. <i>Supramol. Chem.</i> 14:291-94, 2002.
	B63	Quaroni L, Chumanov G. Preparation of Polymer-Coated Functionalized Silver Nanoparticles. <i>J. Am. Chem. Soc.</i> 121:10642-43, 1999.
	B64	Sadtler B, Wei A. Spherical ensembles of gold nanoparticles on silica: electrostatic and size effects. <i>Chem. Commun.</i> , 1604-05, 2002.
	B65	Schaefer, A., et al., "Real-Time Digital Signal Processing-Based Optical Coherence Tomography and Doppler Optical Coherence Tomography", <i>IEEE Transactions on Biomedical Engineering</i> , Vol. 51, No. 1, pp. 186-190, 2004.
	B66	Schmitt JM, Knüttel A, Bonner RF. Measurements of optical properties of biological tissues by low-coherence reflectometry. <i>Appl. Opt.</i> 32:6032-42, 1993.
	B67	Schmitt JM, Knüttel A, Yadlowsky M, Eckhaus AA. Optical coherence tomography of a dense tissue: statistics of attenuation and backscattering. <i>Phys. Med. Biol.</i> 39:1705-20, 1994.
	B68	Sevick-Muraca EM, Houston JP, Gurfinkel, M. Fluorescence-enhanced, near infrared diagnostic imaging with contrast agents. <i>Curr. Op. Chem. Biol.</i> 6:642-50, 2002.
	B69	Shipway AN, Katz E, Willner I. Nanoparticle arrays on surfaces for electronic, optical, and sensor applications. <i>ChemPhysChem</i> 1:18-52, 2000.
	B70	Slaga TJ, Gimenez-Conti IB. An animal model for oral cancer. <i>J. Natl. Cancer Inst. Monogr.</i> 13:55-60, 1992.

B71	Sönnichsen C, Franzl T, Wilk T, von Plessen G, Feldmann J. Drastic reduction of plasmon damping in gold nanorods. <i>Phys. Rev. Lett.</i> Vol. 88, No. 7:077402-1-077402-4, 2002.
B72	Sönnichsen, C., et al., "Spectroscopy of Single Metallic Nanoparticles Using Total Internal Reflection Microscopy", <i>Appl. Phys. Lett.</i> , 75:77:2949-51, 1999.
B73	Stavens KB, Pusztay SV, Zou S, Andres RP, Wei A. Encapsulation of Neutral Gold Nanoclusters by Resorcinarenes. <i>Langmuir</i> 15:8337-39, 1999
B74	Tanaka K, Mitsushima A, Yamagata N, Kashima Y, Takayama H. Direct visualization of colloidal gold-bound molecules and a cell-surface receptor by ultrahigh-resolution scanning electron microscopy. <i>J. Microsc.</i> 161:455-61, 1991.
B75	Tearney GI, Brezinski ME, Bouma BE, Boppart SA, Pitris C, Southern JF, Fujimoto JG. <i>In vivo</i> endoscopic optical biopsy with optical coherence tomography. <i>Science</i> . 276:2037-39, 1997.
B76	Tearney, G.J., et al., "High-Speed Phase- and Group-Delay Scanning with a Grating-Based Phase Control Delay Line", <i>Opt. Lett.</i> , vol. 27, no. 23 :1811-1813, 1997.
B77	Templeton AC, Wuelfing MP, Murray RW. Monolayer protected cluster molecules. <i>Acc. Chem. Res.</i> 33:27-36, 2000.
B78	Timmerman P, Verboom W, Reinhoudt DN., "Resorcinarenes" <i>Tetrahedron</i> 52:2663-704, 1996.
B79	Toth CA, Cain CP, Stein CD. et al. Retinal effects of ultrashort laser pulses in the rabbit eye. <i>Invest. Ophthalmol. Vis. Sci.</i> 36:1910-17, 1995.
B80	Tripp SL, Pusztay SV, Ribbe AE, Wei A. Self-assembly of cobalt nanoparticle rings. <i>J. Am. Chem. Soc.</i> 124:7914-15, 2002.
B81	Ung T, Liz-Marzan LM, Mulvaney P. Controlled method for silica coating of silver colloids. Influence of coating on the rate of chemical reactions. <i>Langmuir</i> 14:3740-48, 1998.
B82	Van der Smissen P, Courtoy PJ, Baudhuin P. Quantitative analysis of clustering on biological membranes: methodology and application to ligand-induced asialoglycoprotein receptor redistribution on rat hepatocytes. <i>Eur. J. Cell. Biol.</i> 69:45-54, 1996.
B83	Van der Smissen P, Vael T, Courtoy PJ, Baudhuin P. Ligand-induced clustering of asialoglycoprotein receptors on rat hepatocytes at 4 °C. <i>Eur. J. Cell. Biol.</i> 60:122-30, 1993.
B84	van der Zande B, Böhmer MR, Fokink, LGJ., Schonenberger, C. Colloidal dispersions of gold rods: synthesis and optical properties. <i>Langmuir</i> 16:451-58, 2000.
B85	Vitkin A, Woolsey J, Wilson BC, Anderson RR. Optical and thermal characterization of natural (sepia officinalis) melanin. <i>Photochem. Photobiol.</i> 59:455-62, 1994.
B86	Vo-Dinh, T., "Surface-Enhanced Raman Spectroscopy Using Metallic Nanostructures", <i>Trends Anal. Chem. Soc.</i> , 17:557-82, 1998.
B87	Wang, L., et al., Use of Laser Beam with an Oblique Angle of Incidence to Measure the Reduced Scattering Coefficient of a Turbid Medium", <i>Appl. Opt.</i> , 34:2362-2366, 1995.
B88	Wei A, Kim B, Pusztay SV, Tripp SL, Balasubramanian R. Resorcinarene-encapsulated nanoparticles: building blocks for self-assembled nanoparticles. <i>J. Inclusion Phenom. Macrocyclic Chem.</i> , 2001, 41, 83-86.
B89	Wei, A., et al., "Tunable Surface-Enhanced Raman Scattering from Large Gold Nanoparticle Arrays", <i>ChemPhysChem</i> . 2:743-45, 2001.
B90	Wei A, Stavens KB, Pusztay SV, Andres RP. Synthesis and Characterization of Resorcinarene-Encapsulated Nanoparticles. <i>MRS Symp. Proc. Ser.</i> 581:59-63, 1999.
B91	Xu, H., et al., "Electromagnetic Contributions to Single-Molecule Sensitivity in Surface-Enhanced Raman Scattering", <i>Phys. Rev. E</i> . 62:4318-24, 2000.
B92	Yguerabide J, Yguerabide BE. Light-scattering submicroscopic particles as highly fluorescent analogs and their use as tracer labels in clinical and biological applications. I. Theory. <i>Anal Biochem.</i> 262:137-56, 1998.
B93	Yu YY, Chang SS, Lee CL., Wang CRC. Gold nanorods: electrochemical synthesis and optical properties. <i>J Phys Chem B</i> 101:6661-64, 1997.
B94	Zaheer A.; Lenkinski, R. E.; Mahmood, A.; Jones, A. G.; Cantley, L. C.; Frangioni, J. V. <i>In vivo</i> near-infrared fluorescence imaging of osteoblastic activity. <i>Nature Biotechnol.</i> 19:1148-54, 2001.
B95	Schaefer, A.W., "Real-Time Digital Signal Processing-Based Optical Coherence Tomography and Optical Doppler Tomography", Thesis, university of Illinois at Urbana-Champaign, 2001.